

IN THE UNITED STATES PATENT AND
TRADEMARK OFFICE

Title of Invention: Mat perimeter system

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BACKGROUND

[0001] Interlocking modular mats serve a useful purpose. They allow a custom sized mat
5 to be quickly constructed. Current interlocking modular mats have interlocking studs and stud
receptacles. Modular mats can be connected to each other by inserting the studs of one mat into
the stud receptacles of another mat. Once the custom sized mat is constructed there is a need for
borders and corners which can be cost effectively manufactured and securely attached to the mat.

[0002] The present invention provides a mat perimeter system comprising a mat module, a
10 connector, a resilient border and a resilient corner which can be cost effectively manufactured.
The mat modules, connectors, borders and corners can be tightly secured to each other. The
connection strength is further increased by the use of interlocking lips and lip recesses.

SUMMARY

[0003] The mat perimeter system addresses these problems. The mat perimeter system is
15 comprised of a mat, a connector, a resilient border and a resilient corner.

[0004] The mat has a stud edge and a stud receptacle edge. The stud edge has a plurality of
upstanding studs attached to it. The studs form a row. The stud receptacle edge has a plurality of
stud receptacles formed within it. The studs are shaped and spaced to engagingly fit within the
stud receptacles of a similarly configured mat. Preferably, at least one of the upstanding studs
20 has a locking lip and at least one of the stud receptacles has a lip recess shaped to interlock with
the locking lip of that upstanding stud or a similarly shaped upstanding stud.

[0005] The connector has two spaced apart rows of upstanding studs attached to a base. The

studs of each row are shaped and spaced to engagingly fit within the stud receptacles of the mat.

When the studs of one row of the connector are fit within the stud receptacles of the mat a row of upstanding studs is created adjacent to the stud receptacle edge of the mat.

[0006] The resilient border is comprised of a border body having a stud slot. The stud slot is shaped to engagingly received and retained a row of upstanding studs. The resilient border has a downwardly tapered top surface.

[0007] The resilient corner is comprised of two branches connected at a right angle. Each branch has a stud slot shaped to receive and retain a plurality of linearly aligned upstanding studs. Each branch has a downwardly tapered top surface.

[0008] Preferably, the resilient border stud slot has a lip recess shaped to interlock with locking lips of upstanding studs and the resilient corner stud slots have a lip recess shaped to interlock with locking lips of upstanding studs. In use the resilient border and the resilient corner are oriented to be attached to upstanding studs attached to the mat. When attached in this orientation the heights of the resilient border and the resilient corner are less than or equal to the thickness of the mat.

[0009] The mat as described can function as an interlocking mat module. The studs of one module fit within the stud receptacles of another module. Mats of varying sizes can be assembled by interlocking the studs of one module with the receptacles of another module. The perimeter of the assembled mat will consist of rows of studs or rows of stud receptacles. The stud receptacles are shaped to receive studs from a connector or another mat module.

[0010]

DRAWINGS

[0011] These and other features, aspects, and advantages of the present invention will become better understood with regard to the following description, appended claims, and accompanying drawings where:

[0012] Figure 1 is a perspective view of a mat perimeter system.

5 [0013] Figure 2 is a perspective view of one mat module showing broken away connectors, borders and a corner.

[0014] Figure 3 is a side elevation sectional view of one of the borders shown in Figure 2.

[0015] Figure 4 is a side elevation sectional view of the corner shown in Figure 2.

[0016] Figure 5 is a perspective view of a mat module.

10 [0017] Figure 6 is a broken away fragmentary perspective view of an upstanding stud attached to the mat module of Figure 5.

[0018] Figure 7 is a side elevation sectional view of the upstanding stud shown in Figure 6.

[0019] Figure 8 is a bottom plan view of the mat module shown in Figure 2.

[0020] Figure 9 is a side elevation sectional view of the mat module shown in Figure 8.

15 [0021] Figure 10 is a side elevation sectional view of a border connected to a mat module shown in Figure 1.

DESCRIPTION

[0022] The preferred embodiment of a mat perimeter system 30 is comprised of a mat module 32, a connector 52, a resilient border 60 and a resilient corner 70.

20 [0023] Preferably, the mat module 32 is molded from rubber. It has a stud edge 34 and a stud receptacle edge 44. The stud edge 34 has a plurality of upstanding studs 36 attached to it. A base 38 connects each upstanding stud 36 to the stud edge 34 of the mat module 32. The

upstanding studs 36 are aligned in a row 40. The stud receptacle edge 44 has a plurality of stud receptacles 46 formed therein. The upstanding studs 36 are shaped and spaced to fit within the stud receptacles 46 of a similarly configured mat module 32. The shape, form and alignment of the upstanding studs 36 and the stud receptacles 46 allow the mat modules 32 to be connected to each other, as well as to resilient borders 60 and resilient corners 70. Preferably the upstanding studs 36 have locking lips 42 and the stud receptacles 46 have lip recesses 48. The locking lips 42 and lip recesses 48 are shaped and sized to interlock with each other.

[0024] The connector 52 has two spaced apart rows 58 of upstanding studs 56. The connector 52 is molded from rubber. The rows 58 are connected to each other by a base 54. The upstanding studs 56 of each row 58 are shaped, sized and spaced to engagingly fit within the stud receptacles 46 of the mat module 32. When one row 58 of upstanding connector studs 56 are inserted into the stud receptacles 46 of a mat module 32 an additional row of upstanding studs 56 is created adjacent to the stud receptacle edge 44 of the mat module 32. Preferably, the upstanding studs 56 have locking lips 57 shaped and sized to interlock with the stud receptacle lip recesses 48 of the mat module 32, as well as the stud slot lip recess 64 of a resilient border 60 and the stud slot lip recess 76 of a resilient corner 70.

[0025] The resilient border 60 is preferably extruded from vinyl. This allows for a more cost-effective fabrication of resilient borders 60 as compared to molding or die casting. It further permits the addition of a coloring dye to the raw vinyl before it is extruded. The border is comprised of a border body 61. The border body 61 is shaped to form a desirable mat border. A stud slot 62 is formed into the border body 61. It is sized and shaped to engagingly receive and retain a row 40, 58 of upstanding studs 36, 56. It can be easily press fit over a row of studs 40,

58. It can be slid along the edge of the mat module 32 while the studs 36, 58 remain engaged with the studs slot 62. Preferably, the stud slot 62 has a stud slot lip recess 64 shaped to interlock with the locking lips 42, 57 of upstanding studs 36, 56. The interlocking lips 42, 57 and stud slot lip recess 64 allow the resilient border to be more securely attached to upstanding studs 36. The resilient border 60 has a downwardly tapered top surface 66 for creating a desirable mat perimeter.

[0026] The resilient corner 70 is preferably molded from rubber. It has two branches 72 connected at a right angle. Each branch 72 has a stud slot 74. The stud slot 74 is shaped to receive and retain a plurality of linearly aligned upstanding studs 36, 56. Each branch 72 has a downwardly tapered top surface 78. Preferably, the resilient corner 70 stud slots 74 have a lip recess 76 shaped to interlock with locking lips 42, 57 of upstanding studs 36, 56. Resilient borders 60 are placed along the edges of the mat. The resilient corners 70 are placed at the corners of the mat. The resilient corners 70 trap the borders 60 securely into place so that the borders 60 do not slide along the studs 36, 56 during use of the mat.

[0027] The mat module 32 has a height 50. Similarly, the resilient border 60 has a height 68 when oriented for usage and the resilient corner 70 has a height 80 when oriented for usage. Preferably, the border height 68 and the corner height 80 are less than or equal to the thicknesses 50 of the mat module 32. This will prevent users from tripping at the perimeter of the mat parameter system 30.